

1 ABSTRACT OF THE DISCLOSURE

2 The invention includes field effect transistors, integrated circuitry,
3 methods of forming field effect transistor gates, and methods of forming
4 integrated circuitry. In one implementation, a field effect transistor
5 includes a pair of source/drain regions having a channel region
6 positioned therebetween. A gate is positioned operatively proximate the
7 channel region, and includes conductively doped semiconductive material,
8 a silicide layer and a conductive diffusion barrier layer. In another
9 implementation, integrated circuitry comprises a field effect transistor
10 having a gate, a gate dielectric layer, source/drain regions and a channel
11 region. The gate comprises semiconductive material conductively doped
12 with a conductivity enhancing impurity of a first type and a conductive
13 diffusion barrier layer. Insulative material is provided proximate the
14 gate, and includes semiconductive material therein which is in electrical
15 connection with the gate. Such semiconductive material is conductively
16 doped with a conductivity enhancing impurity of a second type. The
17 conductive diffusion barrier layer of the gate is provided between the
18 gate semiconductive material and the semiconductive material provided
19 within the insulative material. A method of forming a field effect
20 transistor gate includes forming a layer of conductively doped
21 semiconductive material over a substrate, forming a layer of a
22 conductive silicide over the substrate, and forming a conductive diffusion
23 barrier layer over the substrate. Portions of the semiconductive material
24 layer, the silicide layer and the conductive diffusion barrier layer are

1 removed to form a transistor gate comprising the semiconductive
2 material, the conductive silicide and the conductive diffusion barrier
3 layer.
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